CLAIMS:

1. A method of determining an inflammatory state in a subject, comprising, determining the level of expression of A3 adenosine receptor (A3AR) in white blood cells (WBC) from the subject, a high level of expression of A3AR being indicative of an inflammatory state in the subject.

2. The method of claim 1 wherein the level of said A3AR expression in the WBC is compared to a control level, the control level being the level of A3AR expression in normal WBC of a healthy subject, or being a standard reference level for the A3AR expression which is indicative of a normal state.

3. The method according to claim 1, wherein the inflammatory state is the result of an autoimmune disease.

4. The method according to claim 3, wherein the autoimmune disease is rheumatoid arthritis (RA).

5. A method for determining the severity of an inflammatory state in a subject comprising determining the level of expression of A3AR in WBC of the subject and comparing the level of expression of A3AR in the cells with the level of prior determined standards that correlate A3AR expression level with severity of infection.

6. The method according to claim 5, wherein the inflammatory state is the result of an autoimmune disease.

7. The method according to claim 6, wherein the autoimmune disease is rheumatoid arthritis (RA).

8. A method for determining the effectiveness of an anti-inflammatory therapeutic treatment of a subject, the treatment comprising administering an A3AR agonist to the subject, comprising determining the expression level of A3AR in white blood cells (WBCs) from the subject, in two or more successive time points, at least one of which is during an anti-inflammatory treatment, wherein a difference in the level being indicative of effectiveness of the drug treatment.

9. The method of claim 8 wherein one or more first samples are taken at a time point prior to initiation of the treatment and one or more second samples are taken at a time point during the treatment, wherein a decrease in the level of the A_3AR expression in the one or more second samples as compared to the one or more first samples is indicative that the treatment is effective.

10. The method of claim 8 wherein one or more first samples are taken at a time point during the treatment and one or more second samples are taken at a time point during the treatment subsequent to the time point of the one or more first samples, wherein a decrease in the level of the A_3AR expression in the one or more second samples as compared to the one or more first samples is indicative that the treatment is effective.

11. The method of claim 8 wherein one or more first samples are taken at a time point during the treatment and one or more second samples are taken at a time point after the treatment has been discontinued, wherein an increase in the level of the A_3AR expression in the one or more second samples as compared to the one or more first samples is indicative that the treatment is effective.

12. The method according to claim 8 wherein said therapeutic treatment involves an anti-inflammatory drug.

13. The method according to claim 8, wherein the inflammatory state is the result of an autoimmune disease.

14. The method according to claim 13, wherein the autoimmune disease is rheumatoid arthritis (RA).

15. A method for selecting a subject suffering from a certain inflammatory disease, to receive anti-inflammatory therapeutic treatment that comprises administering to the subject an A_3 adenosine receptor (A_3AR) agonist, the method comprising determining the level of expression of A_3AR in the while blood cells (WBCs) of the subject and selecting the subject to receive said anti-inflammatory therapeutic treatment if said level is above a predetermined level.

16. The method of Claim 15, wherein said sample of WBC is taken from a subject before receiving an anti-inflammatory treatment.

17. The method according to claim 15, wherein the inflammatory state is the result of an autoimmune disease.

18. The method according to claim 18, wherein the autoimmune disease is rheumatoid arthritis (RA).

19. The method of Claim 15, wherein said anti-inflammatory therapeutic treatment comprises providing said subject with an anti-inflammatory amount of IB-MECA.

20. The method of Claim 15, for selecting a candidate for receiving anti-inflammatory therapeutic treatment under clinical studies.